

Fig.1 The former example of pre-processing

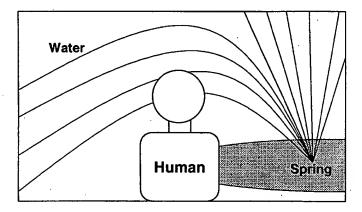


Fig.2 Example of difficult image for manual region segmentation

Fig. 3

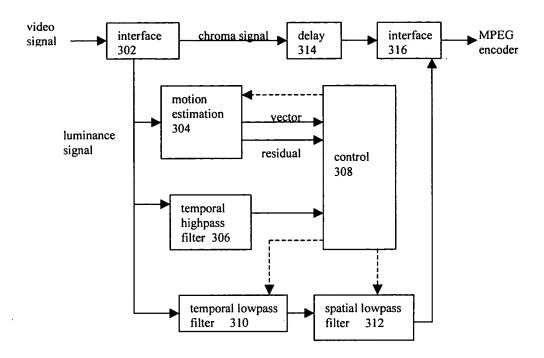


Fig.4

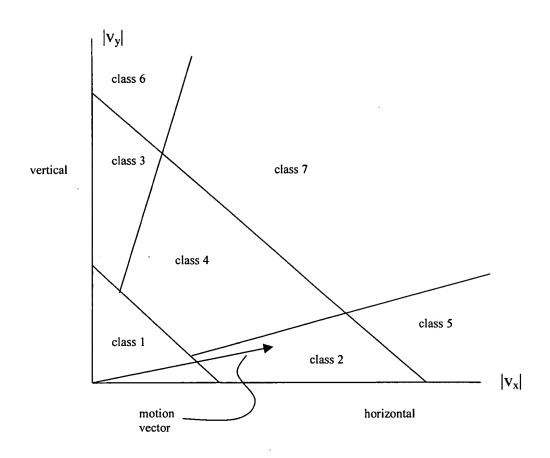


Fig. 5 Is the pixel difference from the prior frame no time or space less than the time threshold? filtering yes no no time or space Is the motion prediction residual small? filtering no Is the motion prediction residual large? apply narrow band low pass time and space filtering no Is the motion vector magnitude less than a no time or space first threshold? filtering no space filter in Is the motion vector magnitude less than a second threshold the horizontal AND motion vector direction primarily horizontal direction no space filter in the Is the motion vector magnitude less than a second threshold vertical direction AND motion vector direction primarily vertical no space filtering in Is the motion vector magnitude less than a second threshold? both directions no strongly space filter Is the motion vector direction primarily horizontal in the horizontal direction no strongly space filter Is the motion vector direction primarily vertical in the vertical direction no strongly space filter in both directions